REMARKS

Claim Objections

The examiner objected to the claims for a number of informalities which the applicant believes the above amendments to the claims have corrected.

Claim Rejections - 35 USC §103

The examiner rejected claims 1-9, 11-20, 22-30 and 32-42 under 35 USC §103(a) as unpatentable over Bertin et al (U.S. Patent No. 5,600,638) in view of Fichou et al. (U.S. Patent No. 5,790,522). The applicant believes the above amendments together with the following remarks overcome the rejections.

Regarding claim 1, the examiner asserts that Bertin discloses a switched node for use in a computer network comprising a) switching circuitry and b) a disk for storing data and a head actuated over the disk for writing data to and reading data from the disk. The examiner further asserts that Fichou discloses a reservation facility for reserving resources associated with the data read from the disk and written to the disk to support predetermined Quality of Service (QOS) constraints with respect to data transmitted through the computer network.

Although there are prior art reservation facilities for reserving resources associated with transmitting data through a computer network (see Background, page 1, lines 11-22, of applicant's specification), nothing in the relied upon prior art discloses or suggests a reservation facility for reserving resources for reading data from a disk and writing data to a disk. As described on page 2, lines 3-11, of applicant's specification, in the prior art the mechanical latency of the disk drive is not taken into account in the QOS equation requiring the network server attached to the disk drive to buffer a sufficient amount of the data stream (read or write) so that the mechanical latency of the disk drive

does not impact the QOS constraints. However, this implementation requires a significant amount of buffer memory and processing power at the network server to support multiple, simultaneous streams. The rejection should be withdrawn since neither Bertin or Fichou disclose or suggest a reservation facility for reserving resources for reading data from a disk and writing data to a disk. Similarly, neither Bertin or Fichou disclose or suggest to reserve resources within a disk drive to support QOS constraints as recited in claims 11, 22, and 33.

Regarding claim 2, although the prior art has employed memory for buffering the data read from the disk and the data written to the disk, nothing in Bertin or Fichou discloses or suggests a reservation facility for reserving part of the memory to support QOS constraints.

Regarding claims 3-6, although the prior art has suggested switching circuitry using virtual lanes, the relied upon prior art does not disclose or suggest to use virtual lanes with data read from a disk and transmitted to other nodes in the network. This embodiment is shown in FIG. 2 which shows a switched node 14i comprising a plurality of data buffers 42A-42D for receiving data read from a disk 16a, wherein the data buffers 42A-42D comprise a plurality of virtual lanes (page. 7, lines 24+ of applicant's specification).

Regarding claims 7-9, although the prior art has suggested switching circuitry using processing circuitry, linking circuitry, and adapter circuitry, the relied upon prior art does not disclose or suggest to reserve these resources to facilitate reading data from a disk and writing data to the disk.

The examiner rejected claims 10, 21, 31 and 43 under 35 USC §103 as unpatentable over Bertin and Fichou in view of Stolfo (U.S. Patent No. 5,668,897). The applicant respectfully disagrees.

Regarding claim 10, the examiner asserts that Stolfo discloses to limit movement of a head used to access a disk so as to constrain the head to a predetermined region of the disk, thereby reserving a resource within a switched node to support QOS constraints. This interpretation of Stolfo is incorrect. Stolfo merely discloses to employ a rotational position optimization (RPO) algorithm to thereby execute "predictive seeks" (col. 21, lines 1-4). At col. 22, lines 51-65, Stolfo teaches that the head should be predictively positioned near the data to be retrieved, so that the distance of head movement between accesses is minimized to the extent possible. However, implementing an RPO algorithm by performing predictive seeks (i.e., executing disk accesses commands in an order that minimizes seek times) is not the same or even similar to constraining the movement of the head to a predetermined region of the disk to thereby reserve a resource within a switched node. This embodiment is illustrated in FIG. 7 which shows the head 78 being constrained to region 88 of the disk 76 so that the head 78 is always near data associated with a particular stream (see page 11, lines 25+ of applicant's specification). In Stolfo the head is not constrained to a predetermined region of the disk; the disk access commands are merely executed predictively in order to minimize the seek times. The rejection should therefore be withdrawn.

The rejection of the remaining claims should be withdrawn for the reasons set forth above.

CONCLUSION

The above amendments to the claims do not add new matter or raise new issues; the applicant respectfully requests the amendments be entered. In view of the above amendments and remarks, the rejections under 35 USC §103 should be withdrawn. In particular, neither Bertin or Fichou disclose or suggest to reserve resources for reading data from a disk and writing data to a disk to support Quality of Service (QOS) constraints in a computer network. Further, Stolfo does not disclosure or suggest to constrain the head to a predetermined region of the disk to thereby reserve a resource for supporting a QOS constraint. The examiner is encouraged to contact the undersigned over the telephone in order to resolve any remaining issues that may prevent the immediate allowance of the present application.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on:

4/22/04 Howard H. Sheerin
(Date) (Print Name)

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